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ABSTRACT

This agenda begins with the mission statement of the National Center for Research in Vocational Education (NCRVE) which envisions NRCVE as serving the role of an agent for change. It discusses the two major components that comprise the vision: one describing what occupationally oriented education ought to be, and one describing how a national center ought to operate. Part 1 describes the six substantive areas around which NCRVE organizes its research and development activities: the economic context of vocational education; the institutional context of vocational the emerging "system" of education and job training; curriculum and pedagogy: innovative and effective practices in vocational education; students in vocational education; personnel in vocational education; and accountability and assessment. Twenty-three project descriptions divided into the research and development categories follow. Part 2 describes these six programmatic thrusts in which NCRVE conducts its dissemination and training activities: dissemination; professional development; special populations; planning, evaluation, and accountability; The National Network for Curriculum in Integration and Tech Prep; and program development, curriculum, and instructional materials. Project descriptions divided into these six areas follow. An index is followed by the NCRVE organizational structure and listing of project directors. (YLB)

ED 369 966

National Center for Research in
Vocational Education

University of California, Berkeley

THE 1994 AGENDA FOR THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

Graduate School of Education
University of California at Berkeley

Consortium Members

The University of California at Berkeley
The University of Illinois
The University of Minnesota
RAND
Teachers College, Columbia University
Virginia Polytechnic Institute and State University
The University of Wisconsin

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MISSION STATEMENT

The National Center for Research in Vocational Education (NCRVE), located at the University of California at Berkeley, is a resource for research and exemplary practice in vocational education. NCRVE is a national institution with an active program of applied and basic research and is comprised of a group of nationally recognized scholars who hold a deep commitment to the vocational education community. NCRVE also offers an extensive array of services to its clients across the country. The University of California at Berkeley is assisted in its efforts by six subcontractors: the University of Illinois; the University of Minnesota; RAND; Teachers College, Columbia University; Virginia Polytechnic Institute and State University; and the University of Wisconsin. The presence of the Center or one of its consortium members in nearly every region of the country places the operation in direct contact with the enormous diversity of the labor markets in the United States. It also closely connects NCRVE with the practitioners it serves in each geographic region of the country. In order to better guide its work, NCRVE adopted the following mission statement:

We envision NCRVE as serving the role of a *change agent* rather than simply as an analyst of current patterns, a service agency, or an advocate. Playing a role in implementing change requires some vision of what change entails. This vision is comprised of two major components, one describing what occupationally oriented education ought to be and one describing how a national center ought to operate—especially one that operates as a change agent.

A Vision for Vocational Education

Two Goals

What should education do? And within education, what should occupationally oriented education do? In responding to these questions, we pose two goals, one individual and one social:

1. Education at all levels should prepare individuals, including members of special populations, for substantial and rewarding employment over the long run. In asking how vocational education can serve the interests of employers and the economy, to ask simply "what do employers want?" is insufficient. Instead, the appropriate questions involve what direction the economy should take and what employers need to help them move in that direction.

2. We therefore propose the following goal: Vocational education should act as a catalyst for a shift to an economy dominated by a skilled and flexible workforce—an economy that seeks a high-skills equilibrium that maximizes both global competitiveness and individual potential, an economy in which firms use more skilled and productive workers and provide the appropriate incentives for education and training—rather than an economy with low average skill levels, limited opportunities, older conceptions of work organization, and increasing inequalities in skills and education.

With these two goals for vocational education, the overarching question for NCRVE—acting in its capacity as change agent—is whether specific occupationally oriented programs serve either or both of these goals. If programs are not serving these goals, then the appropriate questions are as follows:

- How can they change in order to do so?
- What incentives can be used to move existing institutions toward appropriate reforms?
- What measures are available to know when reform has occurred?

Emerging Vocationalism

Over the past several years, a number of developments crucial to the future of education in general and vocational education in particular have occurred—developments that we describe as *emerging vocationalism*. The various strands of emerging vocationalism are consistent with and give additional content to NCRVE's twin goals. Emerging vocationalism

- provides students with a broader education.
- prepares students for "careers" as opposed to "jobs."
- acknowledges that occupationally oriented capacities are learned in a variety of institutions and settings and potentially draws on all of them.
- is concerned about the transitions between these institutions and settings.
- potentially includes all students because all of them have vocational motives and need to confront the occupational choices they make.

- incorporates a revised conception of equity as equitable access to and completion of effective programs.
- focuses on both vocational and academic teachers.
- is concerned with pedagogical methods as well as content—particularly with the more active, student-centered, project-driven, and cooperative teaching methods grounded in the realities of employment.
- relies on mechanisms of accountability to influence the content of programs.
- acknowledges that how employers operate must change as much as how occupationally oriented education functions.

A Vision of How NCRVE Operates

The second major aspect of our vision for NCRVE is to describe how it operates as a change agent rather than simply as an analyst of current patterns, a service agency, or an advocate.

Research institutions typically produce a rather specialized form of knowledge. Practitioners *do* use the results of institutional research; however, they often transform *research* knowledge into *working* knowledge through teaching, administering, legislating, producing, and servicing. This working knowledge is as important as research knowledge (perhaps even more important) to effecting desired changes. Effective systems of planned change, therefore, recognize a community of knowledge producers that is much larger than universities. Effective change must do more than transfer research knowledge to user communities. It must also do more than transfer working knowledge to other practitioners and back to researchers. All such types of knowledge *must be shared* among all participants in the construction and use of these various types of knowledge.

We propose a national center in which research, development, dissemination, and use are integrated with practice from the outset through a collaborative change process that recognizes that *all* the individuals involved in the production, transfer, and use of new knowledge must participate throughout the entire process. To accomplish this vision, all collaborative change efforts of NCRVE are based upon the overriding premise that a person's change in behavior—

not tangible outcomes *per se*—is our primary focus. This strategy involves implementing four principles:

1. Change depends on building and maintaining *social networks* that support and expand the collaborative development and sharing of working knowledge as well as research knowledge.

2. Change requires *continuous communication* among all vocational education actors who produce and use knowledge.

3. Change is *developmental,* initially helping people to commit to change and then assisting them to implement policies and practices that accomplish the desired change.

4. Change uses *multiple, simultaneous strategies* to reach a wide range of audiences, recognizing that persons and the groups to which they belong change at different rates, at different times, in different ways, and so on.

Attention to these principles ensures that NCRVE is not simply dispersing information but is also making significant contributions to the improvement of both research and practice.

The Organization of the NCRVE Agenda

Given its two overriding goals as NCRVE fulfills its mission as a change agent, NCRVE organizes its research and development activities around six substantive areas while conducting its dissemination and training activities in five programmatic thrusts.

Research and Development Areas

R&D Area I: The Economic Context of Vocational Education

R&D Area II: The Institutional Context of Vocational Education: The Emerging "System" of Education and Job Training

R&D Area III: Curriculum and Pedagogy: Innovative and Effective Practices in Vocational Education

R&D Area IV: Students in Vocational Education

R&D Area V: Personnel in Vocational Education

R&D Area VI: Accountability and Assessment

Dissemination and Training Programs

D&T Program I: Dissemination

D&T Program II: Professional Development

D&T Program III: Special Populations

D&T Program IV: Planning, Evaluation, and Accountability

D&T Program V: The National Network for Curriculum in Integration and Tech Prep

D&T Program VI: Program Development, Curriculum, and Instructional Materials

Descriptions of the research and development categories precede project descriptions in Part One of this publication, while dissemination's and training's precede project descriptions in Part Two.

PART ONE: NCRVE's R&D AREAS

R&D Area I:
The Economic Context of Vocational Education

The mission of vocational education has traditionally been viewed as teaching skills directly useful in the workplace. Therefore, understanding changes in the skills required in the workplace has always been fundamental. Additionally, the details of preparing individuals for "substantial and rewarding employment over the long run" and of "supporting a shift to an economy dominated by a skilled and flexible work force" depend on the nature of employment over an extended period of time. This first area of research, then, encompasses skill trends in the economy, the nature of sub-baccalaureate labor markets, required skills and skill levels, and the support of transitions to flexible organizations of work.

R&D Area II:
The Institutional Context of Vocational Education:
The Emerging "System" of Education and Job Training

In a parallel fashion, vocational programs exist in a specific institutional context—a particular configuration of education and training institutions that has been developed over the past thirty years and that has become more complex (and will continue to do so) as new institutions and new programs are instituted. In such a world, it makes no sense to continue examining vocational education—or indeed any other institution—in isolation from those surrounding it. This second area of research, therefore, examines the specifics of this evolving education and training "system," including describing the variety of institutions providing vocational education and their funding. Additionally, we will evaluate the effectiveness of these "systems."

R&D Area III:
Curriculum and Pedagogy:
Innovative and Effective Practices in Vocational Education

This area examines the methods used to develop in prospective workers the various capacities they will need for employment over the long run—that is, the content and pedagogy of

occupationally oriented education. In turn, this area of research and development encompasses seven distinct areas of curriculum innovation and reform:

1. The integration of vocational and academic education
2. The development of Tech Prep programs
3. The development of programs that teach students about "all aspects of the industry" they are likely to enter
4. Programs that smooth the transition from school to work
5. Efforts to develop literacy and other communications skills
6. Methods—including novel approaches to guidance and counseling—of helping students develop their occupational identities and understand the relationship between schooling and future employment
7. The development of business incubators and technology transfer for minority enterprises

R&D Area IV: Students in Vocational Education

Examining content and pedagogy without simultaneously considering students and teachers makes little sense since learning takes place in the interactions between students and teachers. The fourth area of our research and development agenda, then, examines students in vocational programs, including student characteristics, trends in the student composition of various vocational institutions, and the effectiveness of programs for groups of students. This area incorporates research on the special populations that are so strongly emphasized by the 1990 Carl D. Perkins Vocational Education Act Amendments. At the same time, this area of research recognizes that there are many students in vocational education who are not considered members of special populations and that all students are included in the practices of emerging vocationalism. Therefore, research on characteristics and enrollment patterns of all students will also be conducted.

R&D Area V:
Personnel in Vocational Education

Changes in the nature of work, the work environment, and work preparation place enormous demands on educators—teachers, administrators, counselors, and other support personnel—and on the institutions that prepare and employ them. Our agenda for research and development in the area of personnel is built on two assertions:

Assertion 1

> Changes in the nature of work and the workplace, together with escalating public interest in work preparation, create both pressure and opportunity for vocational specialists and advocates (teachers, administrators, and support personnel). To meet the demands will require that *existing vocational educators* work differently with their subjects, their students, their colleagues and administrators, and the communities that they serve.

Assertion 2

> To broaden and deepen the connections between school and work will require shifts in the preparation, support, and orientation of *all teachers*, *administrators*, and *support personnel*, thereby requiring a strategy that links advances in vocational education with those sought by other reform movements.

The three research and development themes of this area are organized around the following:

1. the composition and capacities of the educator workforce
2. the conditions of work in schools and other institutions
3. the formal and informal provisions for the preparation, support, and retention of personnel

In each of the themes, we sustain our twin focus on vocational educators and on the broader pool of teachers, administrators, and support personnel.

R&D Area VI:
Accountability and Assessment

The final area of research and development focuses on accountability and assessment—the mechanisms that are increasingly used to influence the content of emerging vocationalism. Two questions guide NCRVE's research agenda in this area:

1. How well are these systems of accountability and assessment working?

2. What can be done to improve their usefulness and effectiveness, especially at the local level?

This area of research encompasses methodological concerns about evaluation, performance measures and standards, new forms of assessment, and other mechanisms of accountability. Understanding in all of these arenas is necessary in order to determine whether the system of vocational education has, in fact, been responsive to the changing conditions of work analyzed in R&D Area I and whether vocational programs have met the twin goals of preparing individuals for rewarding employment over the long run and of supporting the shift to a high-skills equilibrium.

R&D AREA I:
THE ECONOMIC CONTEXT OF VOCATIONAL EDUCATION

Project I.1

Skills Employers Want or Skills Employers Need?
Skill and Attitudinal Requirements in the Workplace

Project Directors: Cathy Stasz, RAND
John Black, Teachers College, Columbia University (Year 2 of 3)

Keywords: Basic Skills, Cognitive Processes, Communication Skills, Education-Work Relationship, Job Analysis, Labor Needs, Generic Skills, Work Attitudes, Thinking Skills

The ability of the vocational education community to prepare students for the current and future workforce depends on a clear understanding of the skills and attitudes required in various jobs and their contribution to workplace success. Presently, educators are hampered by inadequate job analysis methodologies for assessing new conceptualizations of workforce skills, which include both occupationally specific and generic skills and competencies. In addition, they lack adequate methods for translating specific job-related tasks (defined by employers) into underlying skills and the instructional methods for teaching them (needed by educators). This study will develop a methodology to examine skill needs in a sample of firms that encompass a variety of entry-level jobs. A case study approach that utilizes observational, survey, and interview methods is taken. Most sites in the sample will be linked to schools through existing school/business partnership arrangements. This three-year project will involve fieldwork in years one and two, with the third year devoted to a development activity.

The project will produce two deliverables. First, a final report will include case summaries, cross-case analysis, conclusions, and implications for research and development. Also, a short executive summary will be prepared for practitioners.

Additionally, results from the cognitive task analysis and methodology will be presented at professional research meetings.

Project I.2

The Sub-Baccalaureate Labor Markets: Education, Employment, and Transitions

Project Directors: W. Norton Grubb, University of California at Berkeley
Jacob Klerman and Lynn Karoly, RAND (Year 2 of 3)

Keywords: Education-Work Relationship, Labor Markets, Postsecondary Factors, Work Experience, Longitudinal Studies, School-to-Work Transition

This project examines the sub-baccalaureate labor market for which both secondary and postsecondary occupational programs prepare students. In the second year, it will concentrate on analyzing the dynamic patterns within labor markets as individuals move among jobs and between education and employment, using two complementary data sets: the National Longitudinal Survey of the Class of 1972 (NLS-72), and the National Longitudinal Survey of Youth (NLS-Youth). In addition, the research will examine the wages and earnings that result from different patterns of schooling and employment.

In addition, it is likely that this research will generate other papers on more specific aspects of the problem that will be written for various nonacademic and academic journals and presented at various conferences. In addition, nontechnical papers appropriate for a wider audience of administrators, teachers, and policymakers will be written.

Two final reports will be published: results from the NLS-72 data and results of the NLS-Youth analysis. In addition, various excerpts will be included in NCRVE's periodical, *Change Agent*.

Second, because the analyses in these two reports are highly technical, shorter, nontechnical versions of the reports will be published in more accessible publications aimed at teachers and administrators in community colleges (e.g., the American Association of Community Colleges [AACC] *Journal* and *Educational Leadership*) as well as at audiences of policymakers. This step is crucial in bringing the results of technical research to the broader educational community.

Third, the results of this research will be presented at various national-level conferences such as those of the American Educational Research Association (AERA), American Economic Association (AEA), the American Vocational Education Research Association (AVERA),

AACC, Leadership 2000 (an annual conference of the League for Innovation in Community Colleges), and the Association for Public Policy Analysis and Management (APPAM).

Project I.3

Tracking Industry-Based Skills Certification in the United States

Project Director: Thomas Bailey, Teachers College, Columbia University (Year 2 of 3)

Keywords: Education-Work Relationship, Information Dissemination, Labor Needs, Measures (Individual), Performance Factors, Success, Skill Certification, Skill Requirement for Work

The skill certification movement is one of the fastest growing trends in education reform having shot to the top of the nation's education agenda in only two or three years. Despite the immense enthusiasm for the contributions of institutional skills certification in the U.S., however, many questions remain.

Fundamentally, all the fields touched by certification need a report that can make sense of the plethora of programs and systems that now exist. This project will concentrate less on describing the abundant details of certification components and existing certification schemes (as other research has done) and more on developing a conceptual framework for analyzing certification's potential for replication in educational and occupational settings.

The first and second phases of this project conducted a literature review, developed a conceptual framework, and formed an advisory committee made up of three experts and practitioners. The third phase will conduct a telephone survey of programs to explore issues raised in the literature review and discussions with the advisory committee. The fourth and final phase will yield not only guidelines for developing industry skills standards, but a greater understanding of the problems associated with certification and the potential impacts of certification/regulation on a variety of participants.

A final report will be prepared that stems from the results our telephone interviews and research efforts. The report will address implementation and conceptual issues that those working with the national certification movement must be aware and willing to settle. The report will be useful for policymakers as well as vocational educators and industry trainers. This report

will be sent directly to all of the operators of the Department of Education's National Skill Standards pilot projects in an attempt to develop a dialogue with them.

A short brief will also be developed and will be distributed through the mailing lists of both NCRVE and the Institute on Education and the Economy at Teachers College, Columbia University.

Additionally, seminars and presentations at conferences and professional meetings will be conducted, and papers and articles will be prepared.

R&D AREA III:
CURRICULUM AND PEDAGOGY: INNOVATIVE AND EFFECTIVE PRACTICE IN VOCATIONAL EDUCATION

Project III.A.1

Analyzing Doubly Integrated High School Programs

Project Directors: Robert L. Crain, Teacher College, Columbia University
James R. Stone III, University of Minnesota (Year 2 of 3)

Keywords: Education-Work Relationship, Integration of Vocational and Academic Education, Work Attitudes, Urban Areas

The purpose of this three-year research project is to gain information on the effects of programs that are organized to integrate work experience into programs where vocational and academic curricula are also integrated. This condition of "double integration" is presumed to provide greater benefits to students than either integration effort alone. The major component of this project is the use of at least three sites where double integration can occur: New York City Career Magnet Schools and at least two other sites in other regions of the country. This project will also take advantage of a data base: The Interview Database of the New York Career Magnet Experiment.

The case study work is undertaken in partnership with Project V.1, Teachers' Orientations to Work Preparation in Secondary Schools: Possibilities in School Organization and Teachers' Professional Development. By coordinating the two related projects in a common set of sites, the relationships among school context, programmatic structures, teacher preparation, and students' experiences will be established.

No publication will be produced in 1994.

Project III.A.2

Preparing Teachers To Successfully Integrate Vocational and Academic Education: A Case Study Approach

Project Directors: B. June Schmidt and Curtis R. Finch, Virginia Polytechnic Institute and State University (Year 2 of 2)

Keywords: Case Studies, Professional Development, Integration of Vocational and Academic Education, Vocational Education Teachers, Teaching Methods

This project, which builds on previous NCRVE integration research, focuses on the development of a set of research-based case studies designed to address the needs of vocational and academic teachers who are thrust into instructional settings where the integration of vocational and academic education is an expectation. Case studies being developed are organized around these teachers' roles with case content based on interviews conducted with educators at ten school sites across the United States. Prototype development, review, preliminary field testing, and revision were conducted in 1993. During 1994, the entire set of case studies will undergo full-scale field testing in teacher education and local school settings and then be prepared in final form.

Two products will be developed. The case studies and guidelines for their use will be available for inclusion in preservice and inservice teacher education courses and workshops focusing on the development of successful school-based integration programs. A final report will provide a detailed description of project methodology and outcomes.

Dissemination of the case studies will be through the NCRVE Materials Distribution Service (MDS). Use of field sites as well as presentations have stimulated interest in the case studies. Additional presentations in conjunction with meetings of organizations such as the American Vocational Association (AVA) and the American Educational Research Association (AERA) should create even greater interest in the cases.

Project III.A.3

Integrating Vocational and Academic Education in Postsecondary Institutions: Institutional Support and Pedagogical Variation

Project Director: W. Norton Grubb, University of California at Berkeley (Year 2 of 3)

Keywords: Integration of Vocational and Academic Education, Instructional Innovation, Postsecondary Education, Cooperation (Teacher)

This research will carry out case studies in a variety of community colleges and technical institutes to examine the incentives for faculty collaboration and the integration of vocational and academic education and the differences in teaching methods, status, and institutional goals that impede integration. The research itself will consist of extensive classroom observations to remedy a lack of information about community college teaching as well as interviews with teachers and administrators to address a variety of concerns about postsecondary occupational education.

A final report will be produced. In addition, it has been common for the principal investigator to publish shorter versions of technical reports in more accessible publications aimed at teachers and administrators in community colleges—including the American Association of Community Colleges (AACC) *Journal* and *Educational Leadership*. Other papers examining more specific pieces of the research will be written. Second, this project will produce model curricula, syllabi, and other teaching materials about postsecondary integration of occupational and academic education. The form these materials will take is unclear since their volume is unknown. It may be possible to publish these materials in one or several monographs. Alternatively, they will be made available to NCRVE's National Network for Curriculum in Integration and Tech Prep as well as its National Consortium for Product Quality in Vocational Education (concerning these activities, see D&T Programs V and VI below) for use in conferences, workshops, staff development activities, and the like.

In addition, it seems likely that other teaching materials suitable for dissemination and training as well as information about effective methods of curriculum innovation in general and the integration of occupational and academic education in particular will continue to be developed during 1994 and will be suitable for dissemination and training activities.

The results of this research will be presented at various national-level conferences such as those of AACC, Leadership 2000 (an annual conference of the League for Innovation in

Community Colleges), corresponding state-level colleges, and staff development activities at individual institutions. The dissemination and training activities of NCRVE and the regional variation in the seven institutions comprising NCRVE will be especially helpful in these kinds of face-to-face presentations.

Project III.A.4

But I've Been Doing This for Years: Informal Integration of Vocational and Academic Education

Project Director: Chris A. Roegge, University of Illinois (Year 2 of 2)

Keywords: Integration of Vocational and Academic Education, Instructional Innovation

Research has identified several strategies for integrating vocational and academic education in schools. The least complex strategy, incorporating academic content into vocational courses has been largely bypassed and yet still appears to be an important method for classroom teachers to integrate vocational and academic content. Year two of this project builds upon last year's work by utilizing the instruments, methods, and procedures for site selection, interviewing, and classroom observation that were developed and pilot tested in Illinois to identify and describe the in-class integration strategies of teachers in five other Midwestern states: Iowa, Missouri, Indiana, Kentucky, and Wisconsin.

This year, individual site reports will be produced. Individuals and agencies pursuing development or implementation of Tech Prep programs will find the results particularly useful in their planning.

Furthermore, dissemination of results will occur through presentations at professional meetings, publication in research and practitioner journals, and the formal dissemination activities of NCRVE.

Project III.A.5

Developing Models and a Network of Integration and Tech Prep Programs in Urban Areas

Project Director: Charles Benson, University of California at Berkeley (Year 2 of 5)

Keywords: Integration of Vocational and Academic Education, Urban Schools, Networks, Tech Prep, Urban Areas

This project focuses on urban areas, targeted in the 1990 Perkins Amendments because of their large population of impoverished and special needs students and because they are often unable to implement successful programs because of a lack of technical information and development resources. Working together, NCRVE researchers and practitioners will help exemplary urban programs develop into regional centers for professional development, providing technical assistance to other programs and reorganization plans that can be adapted and implemented by schools in urban areas nationwide.

The dissemination program for the Urban Schools Network will maintain the current membership of the original 1992 and 1993 NCRVE Summer Institute participants and gradually expand membership to include additional schools and colleges. In addition, project staff will engage in the following:

1. electronic networking through NCRVE's electronic bulletin board system, VocServe
2. highlighting participants' successes in a biannual newsletter, *Urban Update*
3. creating a how-to manual for organizing institutes and developing networks
4. holding regional institutes under regional sponsorship, offering affiliate membership in the NCRVE Urban Schools Network
5. encouraging members of the network to read papers at national conferences such as AVA, AERA, and professional subject-matter conferences
6. engaging in collaborative activities with Jobs for the Future and the Center for Law and Education

7. continuing to develop a national faculty and regional technical support team from the mentor teachers and participating teachers and administrators who have demonstrated leadership in the NCRVE Urban Schools Network

Project III.B.1

Tech Prep Research: Student Performance Assessment

Project Director: Carolyn J. Dornsife, University of California at Berkeley (Year 2 of 5)

Keywords: Tech Prep, Instructional Innovation, Government-School Relationship, Student Evaluation, Equal Education

This project continues research begun by Dornsife in 1990 on the operational components of Tech Prep. Specifically, the present project focuses on linkages between Tech Prep program standards and student assessment activities at the secondary level, including identification of assessment tools for measuring "job or work skill attainment," and evaluation of performance-based assessments used in Tech Prep.

During 1994, the primary research activities for this project will include intensive case studies of approximately six Tech Prep sites in various states engaged in the use of performance-based assessment techniques. Selection of the sites will be based, in part, on results from a 1993 survey of state assessment directors and state vocational directors of accountability. Additional research activities will include continued investigations of "best practices" in such operational components of Tech Prep as marketing, curriculum development, guidance, and program evaluation.

The results of this project will be presented in two monographs. One publication will present the case study results, including an analysis of the strengths and weaknesses of performance-based assessment for Tech Prep. A second publication will present the results from our review of previously identified exemplary sites.

The project's monographs will be disseminated through existing organizations for educators (e.g., AACC, the National Education Association [NEA], and AVA). In addition, organizations such as the American Society for Training and Development (ASTD) and other technical and labor organizations will be informed about Tech Prep and its relationship to career preparation and economic development. Finally, the research staff will carry out technical

assistance for local consortia and state agencies involved in implementing Tech Prep. This assistance involves providing direct consultation on such implementation issues as establishing partnerships among local consortia sites and developing an assessment system that complements curriculum reform efforts.

Project III.B.2

Tech Prep: Policy Implementation and Program Evaluation

Project Director: Debra D. Bragg, University of Illinois (Year 2 of 5)

Keywords: Tech Prep, Program Evaluation, Quality Improvement, Outcomes Assessment

This multi-year study will continue research conducted by Bragg that focused on state and local planning and implementation processes used to initiate new Tech Prep programs. In 1994, this study will focus on two primary objectives: (1) to identify exemplary program evaluation and outcomes assessment practices used by existing local consortia to implement and evaluate Tech Prep and (2) to identify, develop, and assess new program/quality improvement practices for Tech Prep programs. The outcome of this project includes the identification of program evaluation and program/quality improvement methodologies, instrumentation, and models that can be implemented by local Tech Prep programs within the framework of state and federal legislative and policy requirements.

Two deliverables will be produced. First is a monograph on the characteristics of exemplary program evaluation practices utilized by local Tech Prep consortia. Second, a journal article will present the findings of the 1993 national survey findings regarding local Tech Prep implementation progress and barriers.

This project's findings will be disseminated through annual conferences of AERA, the American Evaluation Association (AEA), and AVA. These presentations will be designed specifically to fulfill the needs of several audiences: state and local Tech Prep coordinators; educational researchers; teacher educators; educational reformers; school-to-work advocates; and business, industry, and labor representatives. The findings will also be submitted to major professional periodicals such as *Educational Evaluation and Policy Analysis*.

In addition, findings from this research are frequently presented at local, state, and federal meetings throughout the project year. Dr. Bragg will continue to participate in such meetings to facilitate dissemination of research findings on national implementation of Tech Prep.

Project III.B.3

Tech Prep: Applied Curriculum and Staff Development

Project Directors: James L. Hoerner and Darrel A. Clowes, Virginia Polytechnic Institute and State University (Year 2 of 5)

Keywords: Tech Prep, Professional Development, Instructional Design, Curriculum Development

This project proposes to continue to work with practitioner-developed programs at the secondary and postsecondary levels to identify through the professional judgment of the project staff and the practitioners the best practices and processes employed in the development of the integrated applied curricula for Tech Prep programs. The results of this work would then be disseminated to other practitioners as the best judgments of other "teachers as researchers" and of the project staff. In this way, practice, research, and dissemination will be linked, contributing to NCRVE's mission as a change agent.

This project will produce three deliverables during 1994. First, an occasional paper/research brief summarizing our findings to date on integrated and applied curriculum for Tech Prep. Second, a comprehensive practitioner's resource guide for developing integrated and applied curriculum. Last, an annual report containing the results of the site visits, the Delphi on applied curriculum, and current findings from the project tasks.

The dissemination of the results of this project will be conducted using several methods. Joint participation in NCRVE seminars, workshops, institutes, and leadership summits will occur. Presentations at regional and national conferences will be made at such organizations as AVA, AERA, National Council for Occupational Education (NCOE), American Technical Education Association, and invited state conferences. Manuscripts will be submitted to professional journals and publications addressing Tech Prep and vocational education.

Project III.D.2

Linking College and Work: The Role of Two-Year College Work-Based Learning Systems in School-to-Work Transition

Project Directors: Debra D. Bragg, University of Illinois
Russ Hamm, College of Lake County, Illinois (Year 2 of 3)

Keywords: Education-Work Relationship, Postsecondary Education

In the second year of this three-year research project, the staff will identify a number of two-year colleges in the U.S. that have a strong commitment to work-based learning (WBL) programs, based on a national survey currently underway. These programs will represent health and non-health occupational fields; they will be conducted in two-year colleges located throughout the country in urban, suburban, and rural settings. Approximately eight to ten of these WBL programs will be visited by project staff. The primary goal of this research activity is to document best practices for WBL programs in two-year colleges; to classify implementation strategies and existing models of WBL at the postsecondary level; and to develop policy recommendations for local, state, or federal governments regarding implementation of WBL programs on a wider scale.

Two deliverables will be produced. First, an NCRVE monograph on the characteristics of exemplary work-based learning programs in two-year colleges will be published. Second, a journal article presenting the findings of the 1993 national survey findings regarding the role of two-year colleges in work-based learning will be published.

This project's findings from 1993 and 1994 will be disseminated through the annual conferences of NCOE, AACC, and AVA. These presentations will be designed specifically to fulfill the needs of several audiences: postsecondary educators; business, industry, and labor representatives; school-to-work advocates; and educational reformers. The findings will also be submitted to major professional periodicals such as the *Community College Journal* for widespread dissemination.

Project III.D.3

Annual Report on Education-to-Work Transition Programs

Project Directors: Thomas Bailey, Teachers College, Columbia University
David Stern, University of California at Berkeley (Year 2 of 5)

Keywords: Work Experience Programs, Education-Work Relationship, Government Programs, Comparative Education

The 1990 Perkins Amendments states that NCRVE "shall annually prepare a study on the research conducted on approaches that lead to effective articulation for the education-to-work transition, including tech-prep, cooperative education, or other work-based programs, such as innovative apprenticeship or mentoring approaches. . . ."

The 1993 report presented a detailed discussion of the growing concern regarding the deficiencies of the school-to-work transition system in the U.S. The 1994 report will build on the 1993 report in two ways. First, new material or research that will have become available since the completion of the 1993 report will be summarized. The bulk of the report will build on the current work by extending the analysis to six Organization of European Cooperation and Development countries. The purpose will be to draw lessons for U.S. policy from these countries, many of which have more developed school-to-work transition programs than has the U.S.

The annual report on programs fostering education-to-work transition is required by the 1990 Perkins Amendments to be submitted to the U.S. Secretary of Education, Secretary of Labor, Secretary of Health and Human Services, the Senate Committee on Labor and Human Resources, and the House Committee on Education and Labor. The study should, therefore, attract considerable attention and be widely disseminated.

Project III.E.2

Changing Work, Changing Literacy? A Study of Skill Requirements and Development in a Traditional and Restructured Workplace

Project Director: Glynda Hull, University of California at Berkeley (Year 2 of 4)

Keywords: Workplace Literacy, Literacy, Education-Work Relationship

This research project is designed to study the kinds of literacy-related skills—involving writing, reading, communicating, and problem-solving—that are said to be required in today's changing workplaces. Ethnographic studies of two manufacturing plants in the Silicon Valley—circuit board assembly factories—will be conducted to provide a comparison between skills required in "high performance" and "traditionally organized" workplaces. The project will provide information to secondary, postsecondary, and vocational education communities about the changing literacy demands of workplaces and will offer recommendations about the kinds of literacy instruction that seem most useful in helping workers adjust to future, more technologically complex work environments. Co-sponsored by the National Center for Research on Writing and Literacy and NCRVE, it links researchers who focus primarily on writing and literacy with researchers who look mainly at vocational education and work.

A major dissemination effort for this project will be a multimedia database. The multimedia format is particularly important for this project on the workplace, for factories and the literacy-related work that takes place in them aren't easily visualized. Work will begin on the multimedia database late this year, once sufficient data collection and analysis have been carried out for the project, and will continue throughout the life of the project. A prototype of the data base is expected to be available in 1995.

Other avenues for dissemination will be the NCRVE technical report series, the technical report series of the National Center for the Study of Writing and Literacy, and journals for researchers and practitioners. Interim reports will be distributed through the publication channels of both centers. Shorter articles for practitioners and researchers will be published in journals such as *Anthropology and Education Quarterly*, *Harvard Educational Review*, *Adult Education Quarterly*, and *Written Communication*. Finally, presentations will be made at national annual conferences such as meetings of AERA, the National Council of Teachers of English (NCTE), and the American Anthropological Association and at special interest conferences on literacy in general and workplace literacy in particular.

Project III.F.1

Career Development Effects of Career Magnet Versus Comprehensive High Schools

Project Directors: Erwin Flaxman, Teachers College, Columbia University
Gail Zellman, RAND
Robert Crain, Teachers College, Columbia University (Year 2 of 3)

Keywords: Career Development, Magnet Schools, Career Guidance, Urban Areas

This is the second year of a study investigating the effects of career magnet schools' integrated career focus and practices on the career development process. The study is based on a random assignment experimental design, created by the lottery mechanism that the New York City Board of Education uses to allocate seats in its oversubscribed career magnet schools. The use of the lottery allows one to create an experimental study that can virtually prove—or disprove—that the career development process is more complete, relevant, and meaningful in the career magnet schools than in the comprehensive high schools which lottery losers attend and, thus, that the graduates of the career magnet schools will have experiences that help them form a clearer and stronger career identity. An elaborate set of data, both surveys and informal interviews—with students, graduates, teachers, counselors, other school staff, and administrators—will be analyzed.

No public-domain document will be published in 1994.

Findings of the research will be presented at meetings of professional organizations (e.g., AVA, AERA, the American Association of Counseling and Development, and the American Association of Secondary School Principals). Second, a paper will be submitted to a special issue of *Education and Urban Society*. In addition, a nontechnical discussion of our research will be produced for use in professional development activities conducted by NCRVE Dissemination and Training activities.

Project III.F.2

The Relationship of Family and Work in Adult Learners' Lives

Project Directors: Wendy L. Way, University of Wisconsin
Marilyn Martin Rossmann, University of Minnesota (Year 2 of 2)

Keywords: Family Influence, Family-School Relationship, Learning Processes

This study is designed to clarify the role of families in work-related learning. The focus is on improving vocational education programs that prepare adult learners for employment. This project examines associations between family system variables, learning processes, and occupationally-relevant outcomes. Year one tested a model of adolescent experiences and outcomes. Year two will focus on adults.

Data has been collected in year one from a national sample of twelfth grade adolescents (3200) and will be collected in year two from a 22-year-old-or-older adult group (1500), who are in the second year of a two year technical college or community college program. The participants live in Georgia, Pennsylvania, Minnesota, and Arizona.

The following products will be disseminated as a result of this project: a monograph, *Role of Families in Preparing Adolescents for Work*; a research report, *Families' Contribution to Work-Related Learning Among Adults*; a presentation at a national professional meeting, "Meaning Adolescents Give to Learning in Their Family about Preparation for Work"; and a trade journal article, "Preparing Your Children for Work" or "How Families Nurture Career Development."

Project III.G.1

Strengthening Minority and Female Entrepreneurial Skills: Implications for Postsecondary Vocational Education and School-to-Work Transition Programs

Project Directors: Robert Sorensen and Victor M. Hernandez, University of Wisconsin-Madison (Year 2 of 3)

Keywords: Entrepreneurship, Economic Development, Minority Groups

This study will examine the experience of postsecondary institutions, business incubator managers, and entrepreneurs in and out of business incubation in developing entrepreneurial skills. Specifically, interviews and focus groups with administrators, instructors, and students in selected postsecondary institutions will be conducted to determine their understanding of entrepreneurship, efforts to strengthen minority and female entrepreneurial skills, and the extent of integration of entrepreneurial development into work-based and school-based learning experiences. Further, a national survey of business incubator managers and clients is currently being conducted to gather the experience of entrepreneurs in business incubation to build a comprehensive understanding of the elements involved in strengthening entrepreneurial skills.

A final report will be produced highlighting the implications of entrepreneurship for school-to-work opportunities programs. Further, a guidebook describing educational policies, practices, and programs that strengthen minority and female entrepreneurial skills will be developed.

The primary audience will be administrators and staff of postsecondary institutions and industry and community leaders interested in expanding and developing new partnerships and closer working relationships to advance entrepreneurial development for women and minorities.

R&D AREA IV:
STUDENTS IN VOCATIONAL EDUCATION

Project IV.1

A Profile and Analysis of Students in Vocational Training: Literacy Skills, Demographics, and Socioeconomic Characteristics

Project Director: Francisco L. Rivera-Batiz, Teachers College, Columbia University (Year 2 of 2)

Keywords: Basic Skills, Minority Groups, Labor Markets, Program Effectiveness, Work Experience, At-Risk Persons, Outcomes of Education, Urban Areas

The purpose of this project is to provide a comparative profile and analysis of the literacy skills, demographics, and socioeconomic characteristics of individuals participating in a variety of vocational training programs and the literacy requirements these persons face in the workplace. The project will disaggregate the analysis by gender, race, ethnicity, socioeconomic background, disability status, and immigrant background and will discern the particular difficulties facing young adults in urban areas (particularly persons with postsecondary education). To enhance comparability, the study will combine data from the 1991 Workplace Literacy Survey, whose focus is students in vocational education programs, and data from the 1986 Young Adult Literacy Survey, which surveyed persons aged 21-25, with data from the recently completed 1992 National Adult Literacy Survey (NALS), which surveyed a national sample of persons aged 16 years or older and was constructed to serve as a benchmark for comparison with the Workplace Literacy and the Young Adult Literacy surveys.

A final report that analyzes the NALS will be prepared, written, and then disseminated. In addition, a final monograph will state the results of the project, their educational implications, and policy recommendations.

The project monograph/report will be presented at various centers of research and practice in vocational education and at professional conferences, including the annual conference of the American Vocational Association (AVA) and the American Educational Research Association (AERA).

Project IV.2

Voices of Diversity: The Students of Vocational Education, 1993-1997

Project Director: L. Allen Phelps, University of Wisconsin (Year 2 of 5)

Keywords: Minority Groups, High School Students, Postsecondary Education, Postsecondary Students, Student Experience, Program Design, Work Experience

This longitudinal project examines the experiences of 150 vocational-technical students over a three-and-a-half year period. The purpose of this project is to build an understanding of the character of experiences acquired by students through programs that represent emerging vocationalism, with particular emphasis on the experiences of students who are traditionally underrepresented in such programs. During 1994, data collection will be underway at a number of sites yet to be determined and located in major geographical areas of the country. Qualitative techniques will be used to collect, analyze data, and identify themes as an ongoing process.

An annual report describing procedures and preliminary findings will be produced. Other thematic reports featuring the "voices" of students, analyzing their perspectives on relevant issues (e.g., tracking and social stigma and the value of work-based learning experiences) will be issued as they emerge.

Dissemination efforts will include paper presentations at the annual conference of AERA.

R&D AREA V:
PERSONNEL IN VOCATIONAL EDUCATION

Project V.1

Teachers' Orientations to Work Preparation in Secondary Schools: Possibilities in School Organization and Teachers' Professional Development

Project Director: Judith Warren Little, University of California at Berkeley (Year 2 of 2)

Keywords: Integration of Vocational and Academic Education, Teaching (Occupation), Vocational Education Teachers

This two-year project concentrates on the ways in which teachers' professional development and the social organization of teachers' work affect the integration of vocational and academic education in secondary schools. It rests on the premise that the successful integration of vocational and academic education depends on what teachers and those with whom they work are prepared and supported to attempt.

The project incorporates case studies of comprehensive high schools, high schools with "academy" or other school-within-a-school arrangements, and occupational magnet schools. The case study work is undertaken in partnership with Project III.A.1, Analyzing Doubly Integrated High School Programs. By coordinating the two related projects in a common set of sites, the relationships among school context, programmatic structures, teacher preparation, and students' experiences will be established. This project also incorporates professional development "mini-cases" at a small number of additional sites; these mini-cases would focus specifically on the formal and informal professional development that enable a site to develop a "mature" or "advanced" integration of vocational and academic education.

This project will contribute to policy and practice by specifying the way in which selected aspects of school organization, personnel policies and practices, and teachers' preparation enhance or impede the pursuit of vocational goals. In addition, it will contribute to our efforts to frame strategies of research and development for the emerging vocationalism by refining questions and methods that illuminate the perspectives and practices of teachers and teacher development.

Two publications will be prepared. One, tentatively titled *Work Preparation in the High School: Possibilities in the Social Organization of the School*, is directed toward educators and

policymakers. Focusing on the organization of teachers' work as well as on incorporating findings regarding students' perspectives and experiences, this publication will summarize the project's discoveries about the ways in which various forms of school organization—traditional programs and departments, career academies, other "school-within-a-school" arrangements, and occupational magnet schools—establish a favorable context (or not) for the integration of vocational and academic education. The second, tentatively titled *Work Preparation in Comprehensive High Schools: Issues in Teachers' Professional Development*, uses both the comprehensive case study data and the "mini-case" visits and describes formal and informal provisions for professional development, the learning demands to which those provisions respond, and teachers' perceptions of their utility. To the extent possible, the report will trace the influence of selected professional development involvement on program design and practice.

Papers based on project findings will be prepared for appropriate journals or for inclusion in books. In addition, short summaries of the larger project reports will be prepared for audiences of practitioners and policymakers. Presentations will occur at a small number of large-scale conferences (for example AVA presessions). Finally, the possibility of contributing to videotapes or other means of achieving widespread dissemination of findings in an efficient manner will be explored.

Project V.2

Utilizing On-the-Job Experiences for Developing Leadership Capabilities

Project Directors: Judith J. Lambrecht, Charles R. Hopkins, and Jerome Moss, Jr., University of Minnesota
Curtis R. Finch, Virginia Polytechnic Institute and State University (Year 2 of 5)

Keywords: Leadership Qualities, Professional Development, Education-Work Relationship, Evaluation Methods

This project consists of two parts. The first part is designed to determine the characteristics of on-the-job experiences that most effectively develop leadership capabilities. Chief vocational administrators at community colleges, technical colleges, and secondary vocational schools who have already been identified in a prior study as successful leaders will be interviewed to determine the characteristics of their on-the-job experiences that have contributed most to their performance as leaders. The second part of the study brings to culmination the development of two leadership instruments—the Leadership Effectiveness Index (LEI) to assess

leader performance and the Leader Attributes Inventory (LAI) to provide a diagnostic assessment of the attributes that predispose effective leader performance. The two instruments will then be ready for use by vocational educators who wish to improve their performance as leaders or who wish to measure the effectiveness of leadership development activities.

Two deliverables will be prepared. The project component dealing with developing leadership through on-the-job experiences will produce a final report containing (1) an account of the process, (2) a synthesis of the findings, and (3) a set of guidelines. The guidelines (recommendations for practice) will be useful to school boards/regents and upper-level administrators who wish to enhance the opportunities of their staff for leadership development on-the-job. The guidelines may also be used by institutions of higher education in their administrator training programs and by the directors of leadership training programs who wish to facilitate the transition from in-class experiences to on-the-job experiences.

The second deliverable will be a technical manual for the LEI. The manual will include (1) a copy of the LEI, (2) validity and reliability data about the instrument, (3) an explanation and presentation of the LEI norms, (4) information about gender and ethnic group differences, and (5) a description of the administration, scoring, and feedback procedures.

Several avenues for disseminating the results of the project are envisioned. First, presentations will be made at meetings of appropriate professional organizations (e.g., American Vocational Association [AVA], American Educational Research Association [AERA], National Association of State Directors of Vocational Technical Education Consortium, American Association of Community Colleges [AACC], and the University Council for Vocational Education). Articles will be published in professional journals.

Project V.4

New Designs for the Comprehensive High School: Continuing the Visioning

Project Director: George H. Copa, University of Minnesota (Year 1 of 1)

Keywords: Comprehensive Programs, High School, Program Design, Integration of Vocational and Academic Education

This project will extend the development, dissemination, and training concerning the findings of the New Designs for the Comprehensive High School project (1991-1992). Project activities will include semiannual design updates; videotape descriptions of cutting-edge, benchmark practices supportive of the new designs; dissemination of new designs through professional conferences and workshops; and technical assistance to schools wishing to implement aspects of the new designs.

The New Designs project had as its goal developing a new prototype for comprehensive high schools, particularly urban schools, as a means for enriching the common education (which includes vocational education) for *all* students. The prototype included attention to learner outcomes, learning process, organization, partnerships, staffing, and cost.

R&D AREA VI:
ACCOUNTABILITY AND ASSESSMENT

Project VI.1

The Effects of Performance Measures and Standards on Vocational Education Programs and Services

Project Directors: Brian Stecher, RAND
E. Gareth Hoachlander, MPR Associates (Year 2 of 3)

Keywords: Accountability, State Standards, Program Evaluation, Performance Standards and Measures

This study investigates the impact of statewide systems of performance measures and standards on vocational education at the state-level, on local vocational programs, and on the relationship between local programs and state departments of education. During the first year, the project studied four states that were enthusiastic adopters of standards and measures of performance. During the second year, the project will return to these four sites to monitor changes as the statewide systems mature. Two additional states will be studied, states that have been more cautious in implementing statewide measures and standards. These sites will provide contrasts to help clarify the relationships between observed effects and contextual factors at the state and local levels.

A final report that explores the practical implications of the research will be prepared. This information will alert practitioners and policymakers to potential problems and possible solutions.

Findings from this study will be of immediate interest to practitioners at the local level as well as to policymakers at the state and federal level. For this reason, we will disseminate information about the results of the study through many different media, including formal publications, practitioner-oriented articles in the trade press, and presentations at professional meetings.

PART TWO: NCRVE'S D&T PROGRAMS

D&T Program I: Dissemination

The Dissemination Program operates as a centrally coordinated collaborative knowledge-sharing network among NCRVE staff and research and nonresearch stakeholders in the vocational education enterprise. This network translates and brokers for our constituencies (including the seven consortium sites) research and development–based (R&D-based) knowledge, practitioner-based knowledge, and policy-based knowledge in ways useful to them and usable by them and facilitates the movement and sharing of that knowledge among these persons. In addition, the dissemination program encourages the development of social networks among all stakeholders in a specific enterprise so that knowledge is distributed and exchanged in useful, usable ways.

The Dissemination Program organizes itself around three basic functions: distribution, acquisition, and collaboration. Each of these components uses a varying blend of several approaches, including database development and use, information brokering, publications, marketing/promotion, direct interpersonal linkages, and electronic communications.

D&T Program II: Professional Development

Professional development program activities focus on assisting individuals and groups in developing their professional capabilities. Activities provided include the following:

- A National Professional Development Academy
- National satellite teleconferences
- Professional development institutes and workshops
- A professional-in-residence program
- A leadership development program for women and minorities

D&T Program III: Special Populations

The Office of Special Populations (OSP) works nationally to increase vocational program accessibility, quality, and availability for youth and adults from special populations using a technical assistance model that ensures the program is responsive to the needs of the field. OSP targets *all special populations* in vocational education, including individuals with disabilities, educationally and economically disadvantaged individuals (including foster children), individuals of limited-English proficiency, individuals who participate in programs designed to eliminate sex bias, and individuals in correctional institutions. This year, special attention will be focused on career guidance and counseling for special populations.

D&T Program IV: Planning, Evaluation, and Accountability

The Planning, Evaluation, and Accountability Program addresses three major objectives:

1. Assist national and state policy planning
2. Provide technical assistance for developing and conducting program evaluations at the state and local level
3. Provide states and localities with ongoing information and technical assistance about performance measures and standards

To achieve the objectives, the program consists of five major components: (1) databases, (2) a clearinghouse, (3) teleconferences, (4) summer workshops, and (5) field-initiated evaluations.

D&T Program V: The National Network for Curriculum in Integration and Tech Prep

The National Network for Curriculum in Integration and Tech Prep was established to create a linkage between the research and the practitioner communities, thereby increasing the number and quality of programs that integrate vocational and academic education and Tech Prep. To that end, five major goals were established:

Objective 1: Distribution of national rosters for integration and Tech Prep

Objective 2: General outreach activities

Objective 3.1: Targeted outreach activities—extensive support to selected sites

Objective 3.2: Targeted outreach activities—a Network of Innovative Sites

Objective 4: Regional institutes

D&T Program VI: Program Development, Curriculum, and Instructional Materials

The National Center for Product Quality in Vocational Education (NCPQVE) establishes standards for exemplary curriculum and instructional products designed for secondary and postsecondary vocational education. The NCPQVE identifies, certifies, and disseminates exemplary vocational education products for the use in classrooms at the secondary and postsecondary levels.

D&T PROGRAM I:
DISSEMINATION PROGRAM

Program Director: Peter F. Seidman, University of California at Berkeley (Year 2 of 5)

Keywords: Information Dissemination, Information Transfer, Communication (Thought Transfer), Referral, Publications, Networks, Agency Cooperation, Databases

The Dissemination Program operates as a change agent by organizing itself around the overriding premise that a person's change in behavior—not the transmission of tangible outcomes *per se*—is the program's primary focus. The system involves implementing four collaborative change principles:

1. Building and maintaining social networks

2. Building and maintaining continuous communications

3. Building and maintaining a collaborative change strategy which accounts for change as a developmental process

4. Building and maintaining multiple, simultaneous strategies

The Dissemination Program operates as a centrally coordinated *collaborative knowledge-sharing network* among NCRVE staff and research and nonresearch stakeholders in the vocational education enterprise. This network translates and brokers for our constituencies (including the seven consortium sites) R&D-based knowledge, practitioner-based knowledge, and policy-based knowledge in ways useful to them *and* usable by them and facilitates the movement and sharing of that knowledge among these persons. In addition, the Dissemination Program encourages the development of social networks among all stakeholders in a specific enterprise so knowledge is distributed and shared in useful, usable ways.

Thus, the Dissemination Program strikes a balance among user-driven responsiveness, targeted dissemination, and social networking, organizing itself around three basic functions: knowledge distribution, knowledge acquisition, and knowledge collaboration. Each of these components uses a blend of several approaches, including database development and use, information brokering, publications, marketing/promotion, direct interpersonal linkages, and electronic communications.

Knowledge Distribution

Knowledge distribution is the one-way distribution of knowledge produced by NCRVE. The Dissemination Program engages in the following activities in order to effectively distribute knowledge to its user communities:

- Product review, revision, production, and distribution
- Knowledge synthesis
- Product and NCRVE promotion/marketing and public awareness

The activities of NCRVE generate a variety of primary research, development, and training materials as well as materials derived from these primary outcomes, all of which must be made available to educators; researchers; policymakers; business, industry, and labor; and interested citizens. The Dissemination Program operates a product review, revision, production, and distribution process for all NCRVE activities, resulting in the distribution of quality materials.

The Materials Distribution Service (MDS) produces, markets, and distributes all primary and most derived documents created by NCRVE staff. In order to keep NCRVE outcomes truly accessible, MDS operates as a partially subsidized (as compared to full cost-recovery) entity.

Derived Materials

Derived materials result from a formal, rational, and systematic translation process that develops spinoffs from project outcomes (e.g., op/ed articles, NCRVE-guest editorship of a journal issue, and topical briefs).

This formal translation process includes, among the planned materials,

- *CenterWork*: NCRVE's trimesterly newsletter
- *Change Agent*: NCRVE's quarterly digest of NCRVE publications
- *CenterFocus*: NCRVE's series of knowledge synthesis papers

Promotion/Marketing and Public Awareness

MDS distributes a publications catalog in hardcopy and electronically over VocServe; advertises publications in various journals of education and vocational education; promotes products by direct mail (e.g., flyers and postcards); electronically markets publications over VocServe as well as several independent electronic bulletin boards, the exact configuration dependent upon the publication's topic; and markets products in NCRVE's newsletter.

In addition to these techniques, the Dissemination Program, in conjunction with each consortium member, has developed a network among the consortium's public information officers used to distribute press releases in an effective manner.

Lastly, MDS staff display at professional conferences and meetings in order to make attendees aware of NCRVE resources.

Knowledge Acquisition

Knowledge acquisition involves assisting NCRVE's clients to access information. In the process of so doing, NCRVE will build social networks between itself and its user communities as well as encourage such networks to be developed among users themselves.

NCRVE will use the following major technologies to implement knowledge acquisition:

- information brokering
- electronic communications
- national vocational education databases

Information Brokering

The overall mission of information brokering will be to operate as an intermediary for a variety of information services; products and human resources for educators; researchers; policymakers; and business, industry, and labor.

To carry out brokering's mission of providing a variety of information services and products, the Dissemination Program will do the following:

- search NCRVE-maintained databases
- search ERIC
- seek resources, data, and information over electronic networks
- participate in partnerships with relevant information clearinghouses
- maintain a referral network among all NCRVE sites

The Dissemination Program will maintain an 800 number for brokering. The other major channel for brokering requests and for responding to them is through electronic communications. This brokering capacity is achieved both through VocServe and VOCNET as well as through membership in major relevant electronic discussion groups.

Electronic Communications

Electronic communications will be used to receive information requests, to respond to these requests, and to seek information for clients in need of such information for decision making. The Dissemination Program maintains its own public bulletin board system (VocServe) and its own Internet discussion group (VOCNET) and maintains memberships in relevant electronic discussion groups and other systems that it does not manage.

Electronic communications are used in a number of ways to deliver information. For example, NCRVE events and products (conferences, R&D reports, and videotapes) are marketed via electronic media; requests for information are received and answered electronically; and more extensive data in electronic form (e.g., data sets and texts of publications) are electronically archived, accessible to all users of an electronic network.

NCRVE will continue to nurture relationships with independent practitioner networks. These networks exist to facilitate communication among practitioners within their scope, often determined by geographical criteria. NCRVE will invite all of the network participants to join and use NCRVE's VocServe system.

Other National Databases

The Dissemination Program will contribute data to as well as use the resources of several ERIC Clearinghouses: those on Adult, Continuing, and Vocational Education; Junior Colleges; Rural Education and Small Schools; and Urban Education.

Knowledge Collaboration

Knowledge collaboration promotes the multi-way flow of NCRVE-produced knowledge. In the process of so doing, NCRVE will build social networks between itself and its user communities. In addition, NCRVE will encourage such networks to be developed among users themselves.

The key implementing approaches NCRVE will use in encouraging this flow are

- knowledge synthesis.
- electronic communications.
- linkages with other key dissemination networks.

Knowledge Synthesis

Knowledge synthesis is a process as well as a product. Use of computer-mediated communication and other consensus-building collaborative processes will result in knowledge synthesis activities that engage all stakeholders.

Electronic Communications

NCRVE promotes and facilitates the exchange of information among itself and its user communities by electronic means. NCRVE participates in BITNET/Internet discussion lists and in existing practitioner networks in order to maintain contact with those user groups, but the bulk of NCRVE's electronic knowledge distribution, acquisition, and collaboration efforts are channeled through the new VocServe system. These other groups are encouraged to use and join VocServe. Through personal e-mail, public and controlled-access discussion groups, and real-time dialogue, VocServe will serve the knowledge collaboration initiatives of NCRVE and its clientele.

Linkages with Other Key Dissemination Networks

NCRVE collaborates with other key dissemination networks in order to more effectively integrate knowledge producers, transfer agents, and users into a shared effort at developing and using knowledge generated through formal dissemination activities—including collaborative change—as well as practice.

The Dissemination Program will continue to maintain and strengthen linkages with the following:

- the National Network for Curriculum Coordination in Vocational and Technical Education
- the OERI Regional Laboratories
- the National Diffusion Network
- the ERIC Clearinghouses on Adult, Career, and Vocational Education; Junior Colleges; Rural and Small Schools; and Urban Education
- the Council for Educational Development and Research
- the National Dissemination Association
- the Education Writers Association
- the National Education Association (NEA) National Center for Innovation

Deliverables

The Dissemination Program will produce and distribute the following public-domain materials:

- *CenterWork*, a trimesterly newsletter
- *Change Agent*, a quarterly periodical summarizing NCRVE products
- *CenterFocus*, a series of synthesis papers on topics of concern to NCRVE
- *The 1994 Agenda for the National Center for Research in Vocational Education*, which abstracts all 1994 NCRVE projects/programs
- *The Human Resource Directory*, which lists the contact information for and expertise of NCRVE's administrative, R&D, and D&T, personnel

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D&T PROGRAM II:
PROFESSIONAL DEVELOPMENT PROGRAM

Program Director: Curtis R. Finch, Virginia Polytechnic Institute and State University (Year 2 of 5)

Keywords: Inservice Education, Professional Development, Delivery Systems, Performance Factors, Teacher Effectiveness, Leadership Training, Minority Group Teachers, Gender Equity

During 1994, professional development program activities will continue to focus on assisting individuals and groups in developing their professional capabilities. Activities to be provided include the following:

- the National Professional Development Academy
- two national satellite teleconferences
- a professional development bulletin for high school principals
- four to six professional development institutes and workshops
- American Vocational Association (AVA) convention presessions
- the professional-in-residence program
- the leadership development program for women and minorities

National Professional Development Academy

The National Professional Development Academy will become more visible as it continues to serve as an umbrella for professional development activities offered by NCRVE.

National Satellite Teleconferences

The two 1994 teleconferences will respond to the professional development needs of vocational and academic education personnel. One of the teleconferences will be provided in support of NCRVE's Planning, Evaluation, and Accountability Program agenda. This teleconference will be a continuation of the Assessment 2000 series. Possible topics for the second teleconference include "All Aspects of the Industry," "Youth Apprenticeship," "Special Populations," "School-to-Work Transition Programs," or "Community College Tech Prep Programs."

Professional Development Bulletin

A professional development bulletin featuring NCRVE's work on the integration of vocational and academic education will be developed and disseminated to the nation's secondary school principals in collaboration with the National Association of Secondary School Principals (NASSP).

Professional Development Workshops and Institutes

Professional Development Program staff will organize four to six workshops or institutes, focusing on topics relevant to educators' needs. Collaboration with state, regional, and national organizations will increase opportunities for meeting target audiences' needs.

American Vocational Association (AVA) Convention Presessions

AVA presessions will continue to be offered. Among the topics under consideration are "School-to-Work Transition Programs," "Special Populations," "Assessment," "Linking Business/Industry with Education," "Youth Apprenticeship," and "Leadership Development for Women and Minorities."

Professionals-in-Residence Program

Persons who have made significant contributions to vocational education will be competitively selected to serve as professionals-in-residence at NCRVE. Seven to twelve persons will serve as professionals-in-residence at various NCRVE locations.

Leadership Development Program for Women and Minorities

NCRVE has a mandate to provide leadership development services for vocational educators. To that end, NCRVE has (1) produced a conceptualization of leadership and leadership development, (2) created two instruments to assess leader performance and qualities, (3) produced a set of case studies and a simulation designed to assist in developing leader attributes, (4) stimulated and evaluated seventeen leadership development programs around the nation, and (5) developed a "transportable" leadership program for women and minorities (equivalent to a nine-quarter credit course). The purpose of the proposed 1994 activities is to use the foregoing products to further stimulate and improve the quality of leadership development efforts provided for vocational educators.

Stimulation Activities

1. NCRVE's leadership program for women and minorities will be marketed by (1) working with key vocational organizations, (2) giving presentations and conducting workshops, (3) advertising, and (4) distributing the curriculum through the NCRVE Materials Distribution Service (MDS).

2. An AVA presession will be conducted to introduce NCRVE's leadership program for women and minorities. A second two to three day in-depth training workshop will be held during the year.

3. A newsletter will be established to exchange information among the individuals who provide leadership programs for vocational educators.

4. Technical consultation will be provided concerning NCRVE's programs and other related leadership development activities. Information about selected leadership development resources will also be available.

5. Application of NCRVE's leadership development program to business and industry will be explored by working through the customized training divisions of vocational institutions.

6. The feasibility of franchising the use of NCRVE's program to private management and organizational development consultants will be explored.

Quality Improvement Activities

1. Reexamine the relative importance of the content in NCRVE's leadership program for women and minorities.

2. Produce videos of specialized content when the expertise is difficult to find locally.

3. Initiate evaluations of NCRVE's program to assess its overall impact on leader performance and to improve specific aspects of the program.

4. Sponsor an AVA activity for individuals who have already conducted leadership programs to further develop trainers and to regularize the continuing exchange of ideas for program improvement.

Deliverables

The Professional Development Program will produce the following:

- a videotape of an Assessment 2000 national satellite teleconference
- a videotape of a second national satellite teleconference (focus to be determined at a later date)
- the *Professional Development Bulletin* for secondary school principals
- a newsletter to exchange information among individuals who provide leadership programs for vocational educators

Dissemination Plans

Dissemination of information regarding NCRVE's professional development activities will be a major responsibility of the Professional Development Program staff. The primary avenues for dissemination of information and promotion and publicity will be direct mailings, the NCRVE newsletter, and major education publications (e.g., American Association of Community Colleges' [AACC's] *Community College Times*). Copies of the two national satellite teleconference videotapes will be available through NCRVE MDS.

D&T PROGRAM III:
OFFICE OF SPECIAL POPULATIONS

Project Director: Carolyn Maddy-Bernstein, University of Illinois (Year 2 of 5)

Keywords: Special Populations, Guidance and Counseling, Gender Equity, Information Dissemination, Databases, Agency Cooperation

The Office of Special Populations (OSP) works nationally to increase vocational program accessibility, quality, and availability for youth and adults from special populations using a technical assistance model that ensures the program is responsive to the needs of the field. To achieve this mission, its objectives are to

- increase awareness and understanding of critical issues in vocational special needs education.
- increase the use of available resources.
- initiate and support networks of professionals.
- promote exemplary program activity and the adoption of model practices.
- maximize the impact of the program's resources and activities through collaborative activities with state and national organizations.

The activities of OSP target *all special populations* in vocational education, including individuals with disabilities, educationally and economically disadvantaged individuals (including foster children), individuals of limited-English proficiency, individuals who participate in programs designed to eliminate sex bias, and individuals in correctional institutions. This year, special attention will be focused on career guidance and counseling for special populations.

This year, OSP will conduct the following activities which are organized to correspond to each of its five objectives:

1. Increase awareness and understanding of critical issues in vocational special needs education.

   1.1 Three *topical research/resource papers* (*OSP's BRIEF*) will be produced.

1.2 The staff will submit proposals to present at state, regional, and national *conferences* related to its themes (e.g., National Association of Adults with Special Learning Needs, American Vocational Association [AVA], National Association of Vocational Education Special Needs Personnel). The staff also will co-sponsor conferences with the Division of Career Development of the Council for Exceptional Children and the National Association of Special Needs State Administrators.

1.3 *Information* concerning upcoming presentations by the staff and the availability of *BRIEF*s will be *disseminated* through announcements (1) submitted to professional newsletters and (2) posted to relevant electronic bulletin boards. In addition, information about *BRIEF*s will be distributed at conferences as well as by the NCRVE Materials Distribution Service (MDS). The entire text of each *BRIEF* will be posted on relevant electronic bulletin boards.

2. Increase the use of available resources.

2.1 OSP will update and/or publish three *annotated resource lists* on topics such as career counseling for special populations and youth at risk. These lists will be available on a cost-recovery basis through NCRVE MDS.

2.2 The staff will respond to information requests related to vocational education for special populations. This *free resource service* will be widely publicized. Clients will be provided with up-to-date annotated listings of publications and human resources on any of a variety of topics including this year's focus.

2.3 OSP staff will monitor relevant electronic bulletin boards and newsletters for information on *new resources* related to program improvement.

2.4 The staff will select and annotate relevant resources and prepare this information for entry into OSP's *computerized information base*.

2.5 *Information* on the availability of topical resource lists will be *disseminated* through announcements (1) submitted to professional newsletters, (2) posted to relevant electronic bulletin boards, and (3) during staff presentations at conferences.

3. Initiate and support networks of professionals.

3.1 OSP will continue to serve as a hub for a *network of the state personnel* responsible for special populations programs. The network's purpose is to share information on state activities and resources related to program improvement (e.g., research, state plans, local planning guides, and staff training resources).

3.2 Relevant information obtained from network members and from other sources will be highlighted in seven networking letters. The *Networking Letter* will be disseminated to each state administrator of vocational special needs programs and state vocational education directors.

3.3 OSP will co-sponsor the annual National Association for Special Needs State Administrators Conference.

4. Promote exemplary programs and the adoption of model practices.

4.1 OSP will conduct two *exemplary program* (National Recognition Program) *searches*: Vocational Special Populations Program and Career Counseling Programs for Special Populations.

Each application to the National Recognition Program will be reviewed and evaluated by national experts in the field. Site visits to programs receiving the highest ratings will be conducted to verify program descriptions contained in the application. The exemplary programs will be disseminated in a manner similar to Activity 4.3.

4.1.1 Applications for the Vocational Special Populations Programs search will be solicited through announcements (1) submitted to professional newsletters and (2) posted to relevant electronic bulletin boards. Letters inviting applicants will be sent to state and community college personnel and previous applicants. Announcements will be released in the spring.

4.1.2 Applications for the Career Counseling Programs for Special Populations search will be solicited through announcements (1) submitted to professional newsletters and (2) posted to relevant electronic bulletin boards. Letters inviting applicants will be sent to state directors of vocational education and state guidance and counseling coordinators.

4.2 A *national conference* for teachers, counselors, administrators, and other professionals will be conducted prior to the annual AVA convention. The

program will feature presentations of exemplary program winners, and discussions of issues concerning vocational program improvement for special populations.

4.3 Program descriptions and contact *information* for National Recognition Program awardees will be *disseminated* through (1) submitting results to state directors and personnel responsible for special populations and other relevant federal and national agencies in the program's mailing list, (2) publications (monographs) developed by staff and made available through NCRVE MDS about the named exemplary programs, (3) materials and other handouts distributed through the resource service, (4) submitting information to guidance counselors and members of other associations with which OSP collaborates, (5) submitting information to professional newsletters, (6) posting announcements to relevant electronic bulletin boards, and (7) presenting at national and regional conferences.

5. Maximize the impact of OSP resources and activities through collaborative activities with state and national organizations.

5.1 OSP will collaborate with *National Association of Special Needs* state administrators during their annual conference in September. The staff will make a presentation during this conference and assist conference planners.

5.2 OSP will work with *Division of Career Development, Council for Exceptional Children*, leadership to plan and participate in their regional and annual conferences.

5.3 OSP will collaborate with *National Association of Vocational Special Needs* personnel to conduct a national survey to determine the impact of the 1990 Perkins Amendments on local programs. Results will be reported by December 1994.

5.4 OSP will collaborate with *National Alliance of Partnerships in Equity* officers on an ongoing basis to plan activities and disseminate information on issues affecting women.

5.5 OSP will collaborate with the *National Career Development Association* of the American Counseling Association and the *AVA Guidance Division* to search for

and disseminate information on exemplary vocational/career guidance and counseling programs for special populations.

Deliverables

During year two, OSP will produce the following deliverables:

- three topical papers
- three topical resource lists
- seven networking letters
- two monographs
  - *Career Counseling Framework*
  - *Exemplary Vocational Programs*

Dissemination Plans

The topical papers and other information about the OSP's activities will be distributed to those in the program's mailing list, which is currently approximately 7,300. Information is also submitted to selected electronic bulletin boards, thereby targeting those populations who do not have access to print materials. The topical resource lists and monographs will be distributed through NCRVE MDS. Other avenues for dissemination include presentations at national and regional conferences and during the National Exemplary Program Conference.

D&T PROGRAM IV:
PLANNING, EVALUATION, AND ACCOUNTABILITY PROGRAM

Project Director: Gary Hoachlander, MPR Associates, Inc. (Year 2 of 5)

Keywords: Educational Planning, Policy Formation, Technical Assistance, Databases, Data Analysis, Agency Cooperation, Cooperative Planning Measurement, Program Evaluation

The Planning, Evaluation, and Accountability Program addresses three major objectives:

1. Assist national and state policy planning.

2. Provide technical assistance for developing and conducting program evaluations at the state and local level.

3. Provide states and localities with ongoing information and technical assistance about performance measures and standards.

To achieve the objectives, the program consists of five major components: (1) databases, (2) a clearinghouse, (3) teleconferences, (4) summer workshops, and (5) field-initiated evaluations.

Databases

NCRVE will continue to add to and update its extensive database of national surveys containing data relevant to vocational education. We will also continue to advise the U.S. Department of Education on national data for vocational education.

In preparation for reauthorization of the Perkins legislation, a video policy brief will be developed using the information from these databases to describe the condition of vocational education.

Clearinghouse

The program will continue to operate the Accountability Clearinghouse, expanding it to include a new emphasis on assessment. The clearinghouse will monitor states' experience with implementing performance measures and standards.

Teleconference

The program will sponsor a teleconference that builds on the 1993 alternative assessment teleconference. The teleconference will be developed jointly by MPR Associates and the NCRVE site at Virginia Polytechnic Institute and State University.

Presentations

The program will sponsor a presession at the 1994 annual convention of the American Vocational Association (AVA). Additionally, a summer workshop will be co-sponsored by MPR Associates and the NCRVE site at the University of Wisconsin.

Field-Initiated Evaluations

Technical assistance will continue to be provided to the Vocational Education Consortium of the Southern Regional Educational Board (SREB). The program will continue to train new SREB sites in local program evaluation and in the collection of baseline data. It will also assist sites with analyzing annual evaluation data and developing annual site reports.

Additionally, program staff will assist Sussex Tech in Sussex County, Delaware, in developing a local program accountability system to monitor progress with the conversion of a shared-time area school to a full-time vocational high school.

As in the past, NCRVE staff will be prepared to respond to other field-initiated requests for technical assistance with accountability and evaluation. As specific requests are received, responses will involve staff from all NCRVE sites.

Deliverables

The Planning, Evaluation, and Accountability Program will produce the following deliverables:

- *Database Updates*
- a video policy brief

- a video of the assessment teleconference
- a technical report on Sussex Tech

Dissemination Plans

The clearinghouse will be available to all state and local personnel on request. The video policy brief will be distributed to state directors and appropriate national associations and will also be available through the Materials Distribution Service (MDS).

The teleconference will be broadcast to downlink sites. Previous teleconferences reached several hundred sites, with 15,000 to 20,000 people attending.

The plans for the AVA presession will be advertised through normal NCRVE channels, and approximately 100 people are expected to participate.

The summer workshop on performance measures and standards will be attended by 75 to 100 state and local educators.

SREB materials will be distributed to approximately 300 SREB sites, and a presentation on SREB will be given at the annual summer conference. About 2,000 to 3,000 participants are expected to attend this conference.

D&T PROGRAM V:
THE NATIONAL NETWORK FOR CURRICULUM IN INTEGRATION AND TECH PREP

Project Director: [Unassigned at time of publication], University of California at Berkeley (Year 2 of 5)

Keywords: Program Improvement, Agency Cooperation, Tech Prep, Integration of Vocational and Academic Education, Outreach Programs, Networks

The National Network for Curriculum in Integration and Tech Prep was established to create a linkage between the research and the practitioner communities, thereby increasing the number and quality of programs that integrate vocational and academic education and Tech Prep. To that end, five major goals were established. The network will continue the development, operation, expansion, and refinement of these objectives.

Program Objectives

- The national rosters for integration and Tech Prep will be updated through the addition of new sites and extension of roster components.
- General outreach activities will continue in an effort to contend with the increasing demand for support by schools and consortia interested in implementing integration and/or Tech Prep programs. Workshops, conferences, and direct contact with the field will be used.
- Targeted outreach activities will continue: extensive support services. This program will provide extensive support services to a limited number of school sites. Five additional school sites will be selected with the intent to balance urban, suburban, and rural services.
- Targeted outreach activities will continue: Network of Innovative Sites. The development of the Network of Innovative Sites also will continue. The numbers of Network of Innovative Sites will be increased to five. Provisions for an electronic network and newsletter for all innovative sites will be developed.
- Two regional institutes are planned. These programs will provide in-depth preparation for implementing new integration or Tech Prep programs. An effort will be made to

strategically locate the regional institutes to provide maximum opportunity for educators throughout the country to participate.

Deliverables

The National Network for Curriculum in Integration and Tech Prep will produce two products: the *National Roster for Integration* and the *National Roster for Tech Prep*. The rosters will provide educators with timely information related to exemplary programs for the eight models of integration and for Tech Prep.

Dissemination Plans

Dissemination of the *Rosters* will be made through NCRVE's Material Distribution Service.

D&T PROGRAM VI:
NATIONAL CONSORTIUM FOR PRODUCT QUALITY IN VOCATIONAL EDUCATION

Project Director: L. Allen Phelps, University of Wisconsin (Year 2 of 5)

Keywords: Program Improvement, Curriculum Evaluation, Instructional Materials

The National Center for Product Quality in Vocational Education (NCPQVE) was formed to establish standards for exemplary curriculum and instructional products designed for secondary and postsecondary vocational education. Within this mission, the NCPQVE will identify, certify, and disseminate exemplary vocational education products for the use in classrooms at the secondary and postsecondary levels.

The first year of the NCPQVE focused on the design and implementation process for establishing standards for curriculum and instructional materials in vocational education.

A national advisory board will be appointed by January 1994 to provide guidance and input into several aspects of the project. With advisory board approval, the project co-directors will initiate an extended, formal field test and pilot of the standards and certification process in early 1994. During this year, selected products will be certified as having met the standards. Detailed consumer/user product reviews will be prepared on each of these approved products and then disseminated nationally through a variety of curriculum related networks (e.g., National Network for Curriculum Coordination in Vocational-Technical Education [NNCCVTE] and NCRVE Integration and Tech Prep Network).

An extensive evaluation will be conducted by the co-directors and staff to examine the effectiveness and adequacy of the standards, the review and certification process, and the initial dissemination strategies. In late summer, the NCPQVE will release finalized guidebooks which describe (1) the standards for curriculum and instructional materials and (2) the certification process, procedures for product quality review, and approaches for the dissemination of quality products.

A major effort to build and prepare a pool of qualified reviewers will also be a major component of the 1994 NCPQVE workplan. This pool will include educators, trainers, and technical content experts from business, industry, and academia as well as vocational education professionals at the secondary, postsecondary, and state levels.

Deliverables

The deliverables include the following:

- two issues of the *NCPQVE Newsletter*
- a product profile report
- a standards guidebook
- a certification process guidebook
- journal articles

Dissemination Plans

Project information dissemination will initially occur through the proposed newsletters to solicit product certifiers and products for the field test process. Upon completion of the guidebooks, articles will be submitted to the major related journals describing the developmental process for establishing the standards and the certification process.

An AVA preconference workshop is anticipated. This will initiate the implementation of a product training plan established in conjunction with the advisory board for broad dissemination of certified products to practitioners. The plan will include options for inservices for developers that will describe and promote the established standards as well as their use in instructional resources development.

Requests for conference informational presentations will be honored as time allows. Product profiles of exemplary products will be prepared for inclusion in the project newsletters and a separate report following the field test outcomes. The guidebooks for utilizing the product standards and accessing to the certification process as well conforming to the screening process will be disseminated by NCRVE and the project.

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